

Title: Modified Barley α -Glucosidase
Inventor(s): Henson/Muslin/Clark
Application No.:
Docket Number: 960296.97486

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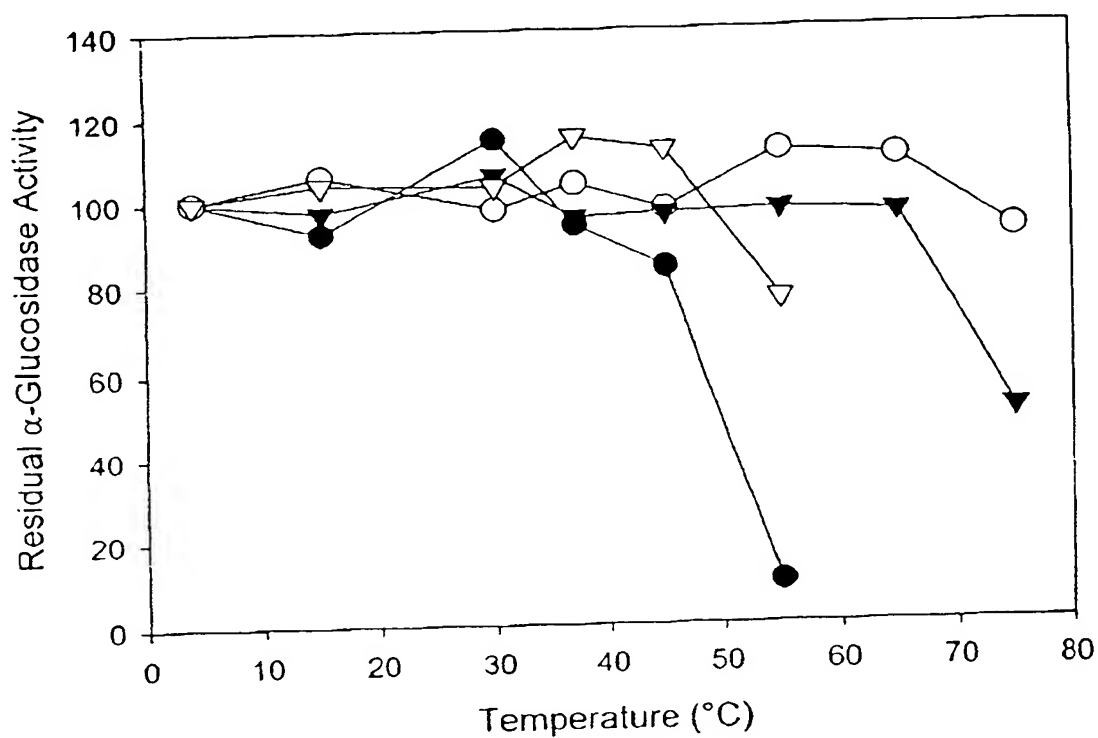


FIG 1

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EARLEY	MA-----TVGV-----LLCLCLCLFAPRLCSSKEECFLAAR---	(32)
S. BEET	Me-----rskipryicptlavvLpLvLCmvvegattrSKndr.qgeAigy9	(44)
SPINACH	Mkkk:pslalCi-----LLvflLqyVAgistcSendpeuvigy---	(39)
ARABID.	Ms-----slhwfpnif----lvvvfLelrxxsqvleeEEstvvgy---	(37)
BARLEY	-----TVLAVAVTMEG-----ALRAEAATCGRSSTG-----DVQRLAVY	(66)
S. BEET	yqvkakvdnstgkai-----tallqlirnspvvgp-----DihfLsft	(83)
SPINACH	-----gykvksVkvds-----gtRrsLcalpqlvknssvygpD:QlLait	(78)
ARABID.	-----gyvrvvgvdsnrqvtakldlkpsvvyap-----DiksLnLh	(76)
BARLEY	ASLETDSRLRVITDADHPRWEVPQDIIPRFAPGD-----VLHDAPPA	(109)
S. BEET	ASfEeDdtLRirfTDAnnRWE:FnvvlFPKppPpppsppplsLqHlpXPi	(133)
SPINACH	ASLEandRLRVITDAKhrRWEiPdnILnrhqpPp-----ppphals	(121)
ARABID.	VSLETeeRLRiRITDssqqrWEiPctvIPRagnhs-----prifstee	(119)
BARLEY	S-----S--APLQCRVLSPAGSDLVLTV-H-ASPFRFTVSRSTGDT	(147)
S. BEET	p-----q--nqptctVLShphSDLafTlfH-ttFFgFTlyRksThDv	(172)
SPINACH	lyrtllspt--tnrxkillShphsDLtcfel-inttPFgFTiSRksThDv	(168)
ARABID.	d-----ggnsPennfladPsedlvftlh-n-ttFFgPsVSRSeGDi	(159)
BARLEY	LFDTAPG-----L-----VFRDKYLEVTSALPAGRASLYGLGEHTK	(183)
S. BEET	LFDatPipenpttfl-----iykDqYLqLsSeLPaqcAnLYGLGEHTK	(215)
SPINACH	LFDatPdptnptcfl-----iFidqYLhltTsLfgtRAhiYGLGEHsK	(211)
ARABID.	LFDTsPd-----ssdsntyfiFkDqfLqLsSALPenRsnLYGiGEHTK	(202)
BARLEY	SSFRLRHNDSTLWNADICASYVDVNLVYGSHPFFYMDVRAP-----GTAH	(227)
S. BEET	ptFqLahNqilTLWNADTasfnrDNLVYGSHPFFYMDVRsspmv---GstH	(262)
SPINACH	ptFqLahNqilTmrAADTpsSnPDVNLVYGSHPFFYMDVRsspsva---GstH	(258)
ARABID.	rSFRLipgetmTLWNADTgsenPDVNLVYGSHPFFYMDVRgskneeaGtH	(252)
BARLEY	GVLLSSNGMDVLYCGSYVTYKVIGGVLDYFFAGSNFLAVVDQYTQLIA	(277)
S. BEET	GVLLLnSNGMDVeYtGcraTYKVIGGiDLYIFAGrtPcmVLQYTKLIg	(312)
SPINACH	GVLLLnSNGMDVeYtGrLiTYKVIGGiDLYFFAGrtPqgVVeGfT:viG	(308)
ARABID.	GVLLLnSNGMDVkyGChritYnVIGGVLDLYVFAGrtPcmVmnQYTeLIg	(302)
BARLEY	RPAPMPYWSFGFHQTRYGYLVNSDLERVVARYAKARI:PLEVMWTDIDYMD	(327)
S. BEET	RPAPMPYwaFGFHQTRYGYLVNSDLERVVARYAKARI:PLEVMWTDIDYMD	(362)
SPINACH	RPAPMPYwaFGFHQTRYGYLVNSDLERVVARYAKARI:PLEVMWTDIDYMD	(356)
ARABID.	RPAPMPYWSFGFHQTRYGYLVNSDLERVVARYAKARI:PLEVMWTDIDYMD	(352)
BARLEY	GFKDFTLDRVNFIAAE:LRFFVDRLHRNAQKYVLILDPGIRVDPCATYGT	(377)
S. BEET	aFKDFTLDPVhFpldkmqgFVckLHRNgQrYVpILDFGI---ntnksYGT	(409)
SPINACH	ayKDFTLDPVNFpldkmkFVnnLHKNgQrYVpILDFGI---stnktYeT	(405)
ARABID.	GyKDFTLDPVNFpedkmqgFVDtLHKNgQrYVpILDFGI---gvDssYGT	(399)
BARLEY	FVRGMQODIFLKRNGTNEFVGNVWPGDVYFPDFMHFAAAEFWAREISLFRR	(427)
S. BEET	FVRGMQsnvFiKRNGpylGsvWPGpVYyFDFldFAArefWwdeIkrfRd	(459)
SPINACH	yVRGM'khDvFLKRNGkpylGsvWPGpVYyFDFldFAArefWwdeIkrfRd	(455)
ARABID.	ynVRGMeadvFiKRNGepylGsvWPGpVYyFDFldFAArefWwdeIkrfRd	(449)
BARLEY	TIFVDGLWIDMNEISNFYN--PEFMN--ALDDPPYRINNDCTGRFINNKT	(475)
S. BEET	ilPldGLWIDMNEasNFiteaptPgs--tLdnPPYkINNsgxvPINsKT	(507)
SPINACH	ilFVDGLWIDMNEISNFis--apPpgstLDnPPYkINNsgvm:Pi:NKT	(503)
ARABID.	ilFIDGLWIDMNEISNFit--splssgeelEDFPYkINNsgdkRPINNKT	(497)
BARLEY	VRFLAVHYGGVTEYEEHNLFGLEARATGRGLRDTGRPPFVLSRSTFVG	(523)
S. BEET	ipatAmHYGnvTEYnaHNLyGfLEsqATreslvRpatRgPFLSRSTFuG	(557)
SPINACH	ipFtAmHYGc:ipEYnvHNLFGyLEARvTraaliklTekrPFVLSRSTFSg	(553)
ARABID.	VpatsiHfGniseYdaHNLyGLEAkATHqaVvd:IGKRPFiLSRSTFVs	(547)
BARLEY	SGRYTAYWTGDNAATWGLDRYSINTMLSFLGFMFMICADICGFNGNTTE	(573)
S. BEET	SGkYTAHWTGDNAARwddLqYSIpTMLnFGLFGFMFMICADICGFaesTTE	(607)
SPINACH	SGkYTAHWTGDNAATWdLqYSIpMLdFGLFGfPMvGADICGFICNTTE	(603)
ARABID.	SGkYTAHWTGDNAAXWeDLaySIpgiLnFGLFGfPMvGADICGFshdTTE	(597)
BARLEY	ELCGRWICLGAFYFFSRDHSaIFTVRRRELYLWFSVAASGRKALGLFYQLL	(625)
S. BEET	ELCGRWICLGAFYFFSRDHSaIdtthqELYLWFSVAASaRtVLGLFYQLL	(657)
SPINACH	ELCGRWICLGAFYFFSRDHS:lqIttyqELYrWFSVAASARKVIGLYQLL	(653)
ARABID.	ELCGRWICLGAFYFFSRDHS:lgtarqELYLWdSVAASARKVIGLYQLL	(647)

FIG 2

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BARLEY	PVFXILMYEAHMTGAPIARPLFFSYPHDVATYGVDRQFLLRGVLVSPVL	(673)
S. BEET	PYYITLMydAnlGSPiARPLfctPdDVATYGissQFLiGRGimVSPVL	(707)
SPINACH	PYFYTLMYEAqlnGIPiARPLFFSfPdDikTYGiesQFLLGkGVmVSPVL	(703)
ARABID.	PhlyTLMYEARvsChPIARPLFFSfPqDckTYeidSCFLiGksimVSPaL	(697)
BARLEY	EPGFITVDAYFPAGRWRLYDYSLAVATRTGKHVRLPAPADTVNVHLTGG	(723)
S. BEET	qPGssiVnAYsPrGnWvsLenYtesVsvsaGtyv6LsAppDhinVHiheG	(757)
SPINACH	kPGVvsVtAYFPPrGnwfdLfDYtreVtasTGryVtLcAppDhinVHiqG	(753)
ARABID.	kqGavaVDAYFPAGnwfdLfnySfAVggdsGKHVRLctPADhVNVHvreg	(747)
BARLEY	TILFLOQSALTTSRARRTA FHLLVALAEDCTASGYLFLDDGDSPEYGR-R	(772)
S. BEET	nIvamQgeAmITqaARsTpFHLLVvmsdhvastGeLFLDnGiemdiGg-p	(906)
SPINACH	nILamQgkAmITqaARKTpFHLLVvmsdcGa6fGeLFLDDGvevtnGvnR	(903)
ARABID.	eIvamQgeALTTrdaARKTpyqLLVvaerleniSGeLFLDDGenlrmGa-g	(796)
BARLEY	S---D-WSMVRFNyKI PNKGAIKVKSEVVHNSYAQSRTLVI SKVLMGH	(916)
S. BEET	g---gkwtlVRffssegN--nlcisSEVVnrgYAmSqrwmdKitilG1	(851)
SPINACH	g---k-WtLVkF--iaaaaKqtc1itSdVVegefAvSqkwVidKVtclG1	(847)
ARABID.	gggrD-WtLVkF--rcyvtgkevrlSEVVnpeYAekmkwaIgKVtfcvGf	(843)
BARLEY	R5PAAPKKLTVMVNSAEVEASSSAGTRYQNAGSLGGVAH-IGGLSLVVGE	(867)
S. BEET	krrvkiKeyTVqkdagaikvkg1grttsshnqGgffVsv-IedLzqlVGq	(900)
SPINACH	RkgtkingyIVrtgavtrkgdkSk1kstpdrkGefiVAe-ISGLnL11Gr	(896)
ARABID.	envenvKtyeVrtserlrspriSl1ktvscnddprflsvevskLSL1VGk	(993)
BARLEY	EFELKV---AMSY	(877)
S. BEET	aFkLelefeGAttrv	(914)
SPINACH	EFkL-----v1h	(903)
ARABID.	kFEEmri----rlt-	(902)

FIG 2

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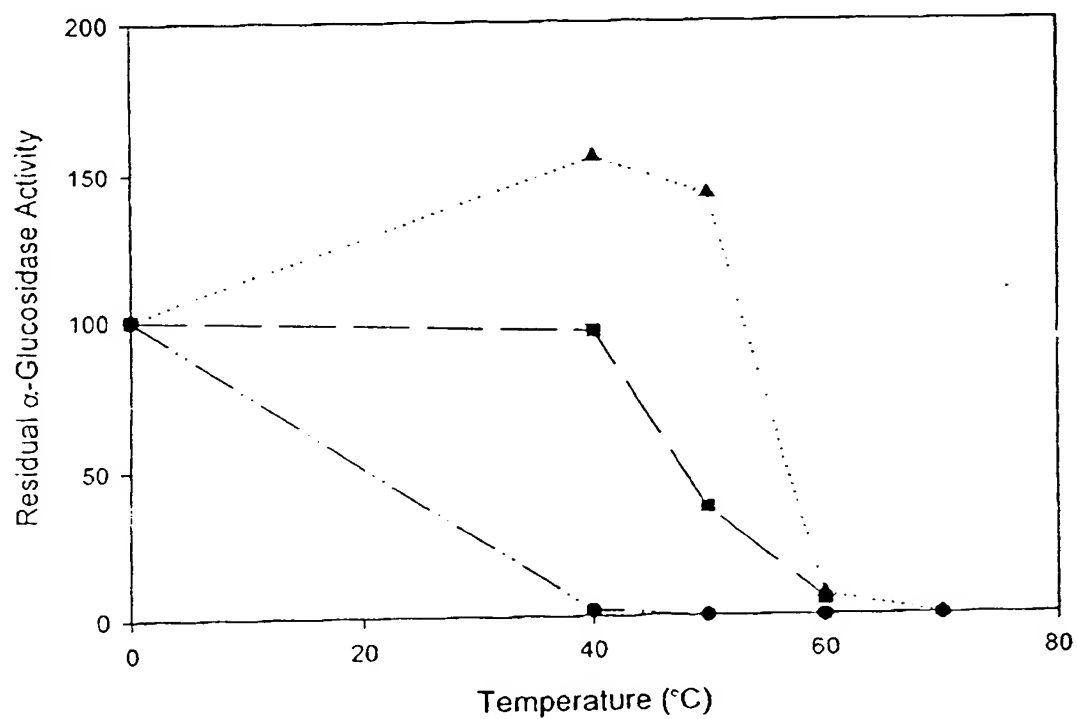


FIG 3

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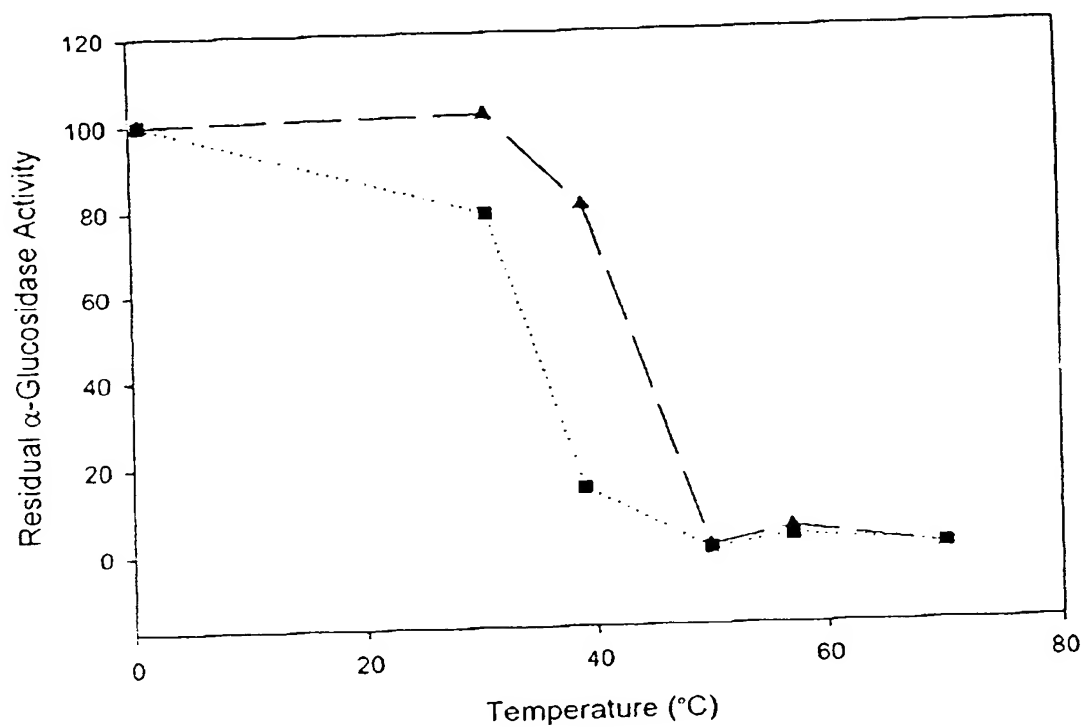


FIG 4

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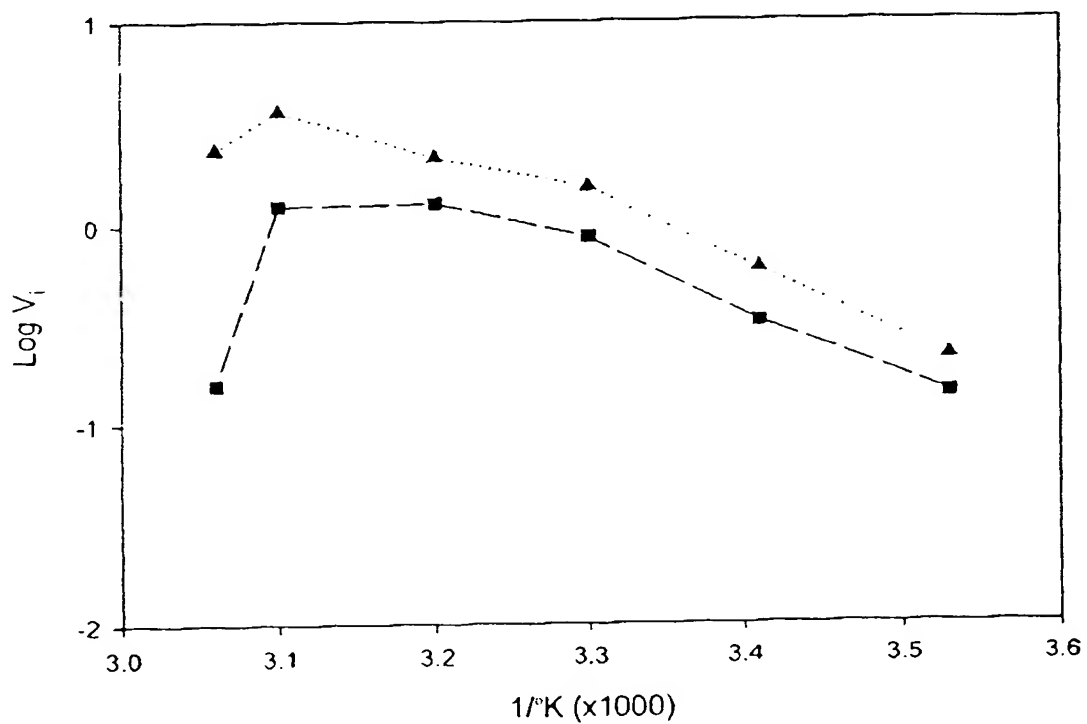


FIG 5